In the United States Patent and Trademark Office
Before the Board of Patent Appeals and Interferences

Appl. No.	:	10/544,154	Confirmation No. 6432
Applicant	:	Francis X. Smith et al.	
Filed	:	August 1, 2005	Art Unit: 1613
Title	:	L-HISTIDINE IN OPHTHALMIC SOLUTIONS	
Examiner	:	Basquill, Sean M.	
Docket No.	:	3009099 US01	
Customer No.	:	44,331	

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REPLY BRIEF FOR APPLICANT PURSUANT TO 37 C.F.R. 41.41 AND 35 U.S.C. 1208

Sir:

Appellants hereby submit this reply brief to the Board of Patent Appeals and Interferences in response to the Examiners answer dated January 25, 2011.

I. Table of Contents

II. Real Party In Interest

The real party in interest is the assignee of the application, FXS Ventures, LLC, having a place of business in the city of Salem, New Hampshire.

III. Related Appeals and Interferences

An appeal was filed in U.S. Pat. Appl. No. 11/613,061, which is a continuing application from this pending application, on November 24, 2010. To date, no decision has been rendered by a court or the Board.

IV. Status of the Claims

Claims 1-20 are pending in the application.

Claims 1-20 are rejected.

Claims 1-20 are hereby appealed.

Appendix I provides a clean, double spaced copy of the claims on appeal.

V. Status of Amendments

A response after Final, including only remarks, was filed on April 5, 2010, subsequent to the Final Rejection. An Advisory Action dated August 18, 2010 was then received indicating that the Examiner considered, but did not find that the remarks were sufficiently persuasive to place the Application in condition for allowance. A Pre-Appeal Brief Request for Review was filed on June 3, 2010. A Notice of Panel Decision from Pre-Appeal Brief Review was received June 29, 2010 rejecting claims 1-20. An Appeal Brief was filed on December 3, 2010. A an Examiner's Answer was received on January 25, 2011.

VI. Summary of Claimed Subject Matter

The invention relates to an ophthalmic solution, a method for supplying a rinsing solution and a method for treating a contact lens, the solution containing L-histidine, hydrogen peroxide and a cationic polymeric preservative, the solution having improved preservative efficacy against fungal contamination.

Independent claim 1 recites an ophthalmic solution (Para. [0028]) having 0.01 to about 1.0 percent by weight L-histidine (Para. [0028]); 0.0001 to 0.01 percent by weight hydrogen peroxide (Para. [0028]); and 0.1 to 500 parts per million of a cationic polymeric preservative (Para. [0028]).

Independent claim 2 recites a method for supplying a rinsing solution to an eye (Para. [0002]) having the step of contacting an eye with a solution (Para. [0028]) having 0.01 to about 1.0 percent by weight L-histidine (Para. [0028]); 0.0001 to 0.01 percent by weight hydrogen peroxide (Para. [0028]); and 0.1 to 500 parts per million of a cationic polymeric preservative (Para. [0028]).

VII. Grounds of Rejection to be Reviewed on Appeal

The following issue is presented for review by the Board of Patent Appeals and Interferences:

1. Whether claims 1-3 and 5-20 are unpatentable under 35 § U.S.C. 103(a) over Mowrey-McKee et al. (U.S. Patent No. 5,817,277) in view of Chowhan et al. (U.S. Patent No. 5,741,817).
2. Whether claims 1-20 are unpatentable under 35 § U.S.C. 103(a) over Mowrey-McKee et al. (U.S. Patent No. 5,817,277) as modified by Chowhan et al. (U.S. Patent No. 5,741,817) and further in view of Han et al. (U.S. Patent No. 5,620,970).

VIII. Arguments

Rejection of Claims 1-3 and 5-20 under 35 U.S.C. § 103(a):

As discussed in detail in the Appeal Brief dated December 3, 2010, the Final Office Action dated December 3, 2009 fails to set forth a *prima facia* case of obviousness to sustain a rejection of claims 1-3 and 5-20. In section 2 of the Office Action dated December 3, 2009, claims 1-3 and 5-20 stand rejected under 35 § U.S.C. 103(a) as being unpatentable over Mowrey-McKee et al. (U.S. Patent No. 5,817,277) in view of Chowhan et al. This rejection is respectfully urged as in error for at least the following reasons.

The Examiner's Answer dated January 25, 2011, indicates that the sole argument rebutting the Examiner's *prima facie* case of obviousness is that combining EDTA with the compositions claimed by Chowhan et al. would frustrate the purpose of those compositions disclosed by Chowhan et al. However, the breadth of Applicants' arguments have been misconstrued. Those arguments not fully addressed in the Examiner's answer dated January 25, 2011, have been reiterated and further clarified.

First, while Chowhan et al. does indicate there are a number of scientific studies that indicate that EDTA may damage corneal cells, this is not the only evidence against using EDTA in compositions disclosed by the reference. As previously discussed, when viewing Chowhan et al. as a whole, the reference explicitly indicates that the ophthalmic solution should not contain EDTA. It is well established that a prior art reference must be considered in its entirety, even including portions of the reference that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983).

When reading Chowhan et al., and starting with the background, the reference not only points to the scientific studies that show EDTA may damage corneal cells, but also states that EDTA "is incompatible with certain components of compositions for treating contact lenses, such as chlorine, iodine and other oxidizing agents." Col. 1, Lns. 34 – 36. The background further states that there is a need for developing a new agent to replace EDTA. Col. 1, Lns. 37 – 40. Moving on to the summary of the invention, Chowhan et al. indicates that the invention is based on a composition that uses low molecular weight amino acids "instead of EDTA." Col. 1, Lns 46 – 55. Moving on to the description and

the examples of Chowhan et al., the reference describes a solution that utilizes glycine as a replacement for EDTA. In fact, even the claims of the Chowhan et al. reference state that "the ophthalmic composition does not contain EDTA." Claim 1. Clearly, when reading Chowhan et al. as a whole, the reference teaches away from the use of EDTA in solutions and combining the compositions of Chowhan et al. would frustrate the entire purpose of the reference. An inference that a claimed combination would not have been obvious especially strong where the prior art's teachings undermine the very reason being proffered as to why a person of ordinary skill would have combined the known elements. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314 (Fed. Cir. 2009).

Second, as mentioned above, Chowhan et al. states that EDTA "is incompatible with certain components of compositions for treating contact lenses, such as chlorine, iodine and other *oxidizing agents*." (Emphasis added) Col. 1, Lns. 34 – 36. The fact that Chowhan et al. states that there is an incompatibility with oxidizing agents is a statement that cannot be overlooked. Hydrogen peroxide is a well known oxidizing agent. Chowhan et al. explicitly indicates that EDTA is incompatible with oxidizing agents. When reading Chowhan et al. as a whole, those skilled in the art would be taught away from combining the compositions containing EDTA with compositions having oxidizing agents such as hydrogen peroxide.

Third, Mowrey-McKee et al. does not describe L-histidine in an ophthalmic solution. The Examiner relies on Chowhan et al. to teach this limitation, indicating that it would be obvious to include low molecular weight amino acids to improve the efficacy of antimicrobial preservatives in ophthalmic solutions. However, Chowhan et al. lacks sufficient specificity to teach one skilled in the art the use of L-histidine. The instant claims are specifically limited to the inclusion of L-histidine. By contrast, Chowhan et al. discloses a sizable list of suitable amino acids, with the only additional guidance being given towards a preference for low molecular weight amino acids which include alpha (a) carboxylic acid groups, and a preferred embodiment utilizing glycine. Similar to the fact that a claimed species is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness (*In re Baird*, 16 F.3d 380 (Fed. Cir. 1994)), so to should the lack of specificity within a list of suitable compounds be unable to support a *prima facie* case of obviousness. When looking at Chowhan et al. as a whole, the only preferred compound listed in the examples and the specification is glycine. Other than

the preference for glycine, a person of ordinary skill in the art can take away no additional guidance in selecting suitable compounds.

Fourth, using the cited references as claimed to arrive at the instant claims is paramount to utilizing hindsight reconstruction. Ignoring the fact that the entire teaching of Chowhan et al. is to develop a composition without EDTA goes against the spirit of that reference. Furthermore, choosing to utilize histidine although Chowhen et al. indicates a preference for glycine and provides no additional guidance for the selection of histidine is akin to picking and choosing elements to reconstruct the instantly claimed invention. One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. In re Fine, 837 F.2d (Fed. Cir. 1988); In re Fritch, 972 F.2d 1260 (Fed. Cir. 1992). Here there lacks any guidance for selecting histidine from Chowhen et al. while the reference discloses only one preferred compound, glycine. Additionally, the entire purpose of Chowhen et al. is to arrive at a compound without EDTA, combining the solution with the solution of Mowrey-McKee et al., which contains EDTA, not only lacks guidance, but goes completely against the teachings of Chowhen et al.

Finally, the instant claims provide surprising results. The specific combination of L-histidine with a very low level of hydrogen peroxide in the presence of preservative improves the antifungal properties of ophthalmic solutions. As shown in example 3 of the specification as originally filed, the samples containing both L-histidine and hydrogen peroxide provide superior antifungal properties when compared to the solutions without hydrogen peroxide.

For these reasons, it is believed that the instant claims are non-obvious over Mowrey-McKee et al. and Chowhan et al., and that this rejection should be reversed.

Rejection of Claims 1-20 under 35 U.S.C. § 103(a):

For the reasons discussed above, and as previously discussed in the Appeal Brief dated December 3, 2010, Claims 1 and 2 are believed to be patentable. As claims 3-20 benefit from dependency of claims 1 and 2, they too are believed to be patentable. Therefore, it is respectfully requested that this rejection be reversed.

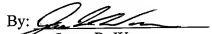
IX. Summary

The combination of the teachings of Mowrey-McKee et al. with the teachings of Chowhan et al. is improper. The proposed combination frustrates the purpose of Chowhan et al. when viewed as a whole. The references teach away from arriving at the claimed solution. Furthermore, the instant claims provide surprising results in that the combination of L-histidine with a very low level of hydrogen peroxide in the presence of preservative improves the antifungal properties of ophthalmic solutions. Therefore, it is respectfully urged that the rejection be reversed.

X. Conclusion

For the above reasons, Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the rejection by the Examiner and mandate the allowance of claims 1-20.

Respectfully submitted,
HISCOCK & BARCLAY, LLP

By: 

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XI. Appendix I - Claims on Appeal

1. An ophthalmic solution comprising:

   0.01 to about 1.0 percent by weight L-histidine;

   0.0001 to 0.01 percent by weight hydrogen peroxide; and

   0.1 to 500 parts per million of a cationic polymeric preservative.

2. A method for supplying a rinsing solution to an eye comprising the step of:

   Contacting an eye with a solution comprising:

   0.01 to about 1.0 percent by weight L-histidine;

   0.0001 to 0.01 percent by weight hydrogen peroxide; and

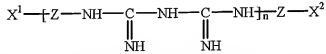
   0.1 to 500 parts per million of a cationic polymeric preservative.

3. The ophthalmic solution of claim 1 further comprising a surface-active agent.

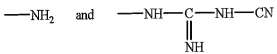
4. The ophthalmic solution of claim 3, wherein said surface-active agent is a hydroxy-ethoxylated castor oil.

5. The ophthalmic solution of claim 1, wherein said cationic polymeric preservative is a polymeric biguanide.

6. The ophthalmic solution of claim 1, wherein said cationic polymeric preservative is represented by the following formula:



wherein Z is an organic divalent bridging group, n is from 1 to 500, and X^1 and X^2 are:



7. The ophthalmic solution of claim 6, wherein said cationic polymeric preservative has a number average molecular weight of at least 1,000.

8. The ophthalmic solution of claim 1 further comprising about 0.00001 to about 0.5 weight percent of a germicidal agent.

9. The ophthalmic solution of claim 1 having a pH between 6.0 and 8.0.

10. The ophthalmic solution of claim 1 having a pH between 6.5 and 7.8.

11. The ophthalmic solution of claim 1 further comprising 0.05 to 2.5 weight percent of a buffer.

12. The ophthalmic solution of claim 11, wherein said buffer is selected from the group consisting of boric acid, sodium borate, potassium citrate, citric acid, sodium bicarbonate, bis-tris propane, TRIS, mixed phosphate buffers and mixtures thereof.

13. The ophthalmic solution of claim 1 further comprising a tonicity agent.

14. The ophthalmic solution of claim 1 further comprising a chelating agent selected from the group consisting of ethylenediaminetetraacetic acid, nitrilotriacetic acid, diethylenetriamine pentaacetic acid, hydroxyethylethylenediaminetriacetic acid, 1,2-diaminocyclohexanetetraacetic acid, ethylene glycol bis (beta-aminoethyl ether) in N, N, N', N' tetraacetic acid (EGTA), aminodiacetic acid, hydroxyethylamino diacetic acid, salts of ethylenediaminetetraacetic acid and disodium edetate.

15. The ophthalmic solution of claim 1 having a tonicity between 240 and 310 mOsm/kg.

16. The ophthalmic solution of claim 1 further comprising between 0.01 and 0.35 weight percent sodium chloride.

17. The ophthalmic solution of claim 1 further comprising between 0.01 to about 15 weight percent of a surfactant.

18. The method for supplying a rinsing solution of claim 2, wherein said solution has a pH between 6.5 and 7.8

19. The method for supplying a rinsing solution of claim 2, wherein said cationic polymeric preservative is a polymeric biguanide.

20. The method for supplying a rinsing solution of claim 2, wherein said solution further comprises between 0.01 and 0.35 weight percent sodium chloride.

XII. Appendix II - Evidence

None

Appendix III – Related Proceedings

U.S. Pat. Appl. No. 11/613,061